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John Barrus

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EXAMINER

GOKHALE, SAMEER K

ART UNIT

PAPER NUMBER

2629

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/727,199	Applicant(s) BARRUS ET AL.	
	Examiner Sameer K. Gokhale	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 9-10, 14-16, 19, 22, 23, 27, 28, 30-36, 38, and 41-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Fisher (US 5,242,306).

Regarding claims 1 and 30, Fisher teaches a multi-projector display system and method for displaying an image including at least one window, comprising: a window projector (Fig. 1, projector 16, see col. 4, lines 34-37, where the inset area is considered a "window"), for displaying, at a display location, a portion of the image corresponding to a movable window (Fig. 1, inset area A, and see col. 4, lines 31-33 where the inset area can be moved); a workspace projector (Fig. 1, either of the projectors 10, 14, or 12 are a workspace projector), for displaying the remainder of the image; and a control mechanism (Fig. 1, the detail inset positioning system 34) coupled to the window projector, for changing at least one of the display location and the size of the window portion of the image (see col. 4, lines 31-33).

Regarding claims 2 and 31, Fisher teaches a display system and method wherein the control mechanism changes the at least one of the display location and the size of the window portion of the image in response to a user command (see col. 5,

lines 5-8, where the inset area is moved, which is a change in display location, in response to a user command).

Regarding claims 3 and 32, Fisher teaches a display system and method wherein the control mechanism changes the display location of the window portion of the image in response to a user command for moving the window (see col. 5, lines 5-8).

Regarding claims 4 and 33, Fisher teaches a display system wherein the control mechanism changes the display location of the window portion of the image in response to activation of the window (see col. 5, lines 5-8, where "actuating" the window is the same as "activating" the window).

Regarding claims 5 and 34, Fisher teaches a display system and method wherein: the window projector displays the window portion of the image at a first level of resolution; and the workspace projector displays the remainder of the image at a second level of resolution (see col. 2, lines 60-67).

Regarding claim 6 and 35, Fisher teaches a display system and method wherein the first level of resolution is greater than the second level of resolution (see col. 2, lines 60-67).

Regarding claims 7 and 36, Fisher teaches a display system, wherein: the window projector displays the window portion of the image in a first visual format (Fig. 1, see col. 3, lines 65-67, where the visual format used for the window portion is monochrome); and the workspace projector displays the remainder of the image in a second visual format (Fig. 1, see col. 3, lines 53-54, where the background is in color); wherein the first visual format is distinct from the second visual format (see col. 3, lines 67 - col. 4, line 1).

Regarding claims 9 and 38, Fisher teaches a display system, wherein the window projector displays a motion picture in the window portion of the image (see col. 1, lines 18-19, where a purpose of the device is to show a moving image in the inset area, which constitutes a motion picture).

Regarding claim 10, Fisher teaches a display system, wherein the window projector and the workspace projector are coupled to a common image source (Fig. 1, where all projectors are coupled to the image generator 30).

Regarding claims 14 and 41, Fisher teaches a display system and method wherein the workspace projector displays the remainder of the image while leaving blank an area of the image corresponding to the display location of the window (see col. 3, lines 47-49, where if the green projector 12 is considered the workspace projector then it leaves blank the inset area A).

Regarding claims 15 and 42, Fisher teaches a display system and method, wherein, the workspace projector performs at least one of moving and resizing the blank area of the image so as to correspond to the changed at least one of the display location and size of the window (see col. 5, lines 9-12, where cooperation of the image generator indicates that the the shift in display location causes the workspace projectors to move the inset area A).

Regarding claims 16 and 43 , Fisher teaches a display system and method, wherein the control mechanism changes the display location of the window portion of the image by repositioning the window projector (Figs. 1-2see col. 5, lines 5-12, where it is inherent that shifting the area A will involve a repositioning of at least some part of the projector).

Regarinding claim 19, Fisher teaches a display system, wherein the control mechanism comprises: a pan/tilt control mechanism; and a zoom control mechanism (see col. 4, lines 49-66, where the ability to move the viewing platform P in conjunction with the detail insert positioning system 34 constitutes a method of panning and zooming in on the display).

Regarding claim 22, Fisher teaches a multi-projector display system for displaying an image including at least one window, comprising: a window projector (Fig.

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1, projector 16, see col. 4, lines 34-37, where the inset area is considered a "window"), for displaying, at a display location, a portion of the image corresponding to window (Fig. 1, the inset area A); a plurality of workspace projectors (Fig. 1, all of the projectors 10, 14, or 12 are workspace projectors), for displaying the remainder of the image; and a control mechanism (Fig. 1, the detail inset positioning system 34) coupled to the window projector, for changing at least one of the display location and the size of the window portion of the image (see col. 4, lines 31-33).

Regarding claim 23, Fisher teaches a display system wherein the control mechanism changes the at least one of the display location and the size of the window portion of the image in response to a user command (see col. 5, lines 5-8, where the inset area is moved, which is a change in display location, in response to a user command).

Regarding claim 27, Fisher teaches display system for displaying an image including at least one window, comprising: a display device (Fig. 1, workspace projector 12), for displaying a portion of the image omitting an area corresponding to a window (Fig. 1, see col. 3, lines 47-50, where the projector 16 omits projecting to the inset area A); a window projector (Fig. 1, projector 16, see col. 4, lines 34-37, where the inset area is considered a "window"), for projecting onto the display device, at a display location corresponding to the area omitted by the display device, the portion of the image corresponding to the area omitted by the display device (Fig. 1, see col. 3, lines 63-64);

a mechanism (Fig. 1, the detail inset positioning system 34) coupled to the window projector, for changing at least one of the display location and the size of the window portion of the image (see col. 4, lines 31-33).

Regarding claim 28, Fisher teaches a display system wherein the control mechanism changes the at least one of the display location and the size of the window portion of the image in response to a user command (see col. 5, lines 5-8, where the inset area is moved, which is a change in display location, in response to a user command).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8, 11-13, 20-21, 25-26, 29, 37, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher in view of Lechner et al. (US 5,487,665) (hereafter, "Lechner").

Regarding claim 8 and 37, Fisher teaches the limitations of claim 7 and 36 as discussed above, and Fisher further teaches a display system wherein the first visual

format is monochrome and the second visual format is color, however Fisher does not teach a display system or method wherein the first visual format is color and the second visual format is monochrome.

However, Lechner does teach a display system where the first visual format is color (see col. 6, lines 1-2) and the second visual format is monochrome (see col. 5, lines 13-17).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Lechner in the system of Fisher in order to have a monochrome background image and a full color inset image where a different and known method of increasing the inset image resolution (see Lechner, col. 5, line 66 through col. 6, line 1, where the resolution is based on the number of lines and pixels) is used.

Regarding claim 11, Fisher teaches the limitations of claim 1 as discussed above, however, Fisher does not explicitly teach a display system where the window projector coupled to a first image source, and the workspace projector is coupled to a second image source.

However, Lechner does teach a display system where the window projector coupled to a first image source (Fig. 2, inset image generator 26), and the workspace projector is coupled to a second image source (Fig. 2, background image generator 22).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Lechner in the system of Fisher in order

to have separate sources for the inset image and the background image so that a different type of image signal can be used for inset image, such as a three-dimensional image (see Lechner col. 5, lines 50-59).

Regarding claims 12 and 39, Fisher teaches the limitations of claim 1 and 30 as discussed above, however, Fisher does not teach a display system or method wherein the image includes a plurality of windows, one of the windows currently having focus, and wherein the window projector displays the portion of the image corresponding to the window having focus.

However, Lechner does teach a display system wherein the image includes a plurality of windows (Fig. 1, images 24, see col. 5, lines 38-39, where the inset images correspond to inset areas which are windows), only some of the windows currently having focus (see col. 6, lines 52-66, where the prioritized inset images, corresponding to images closest to the user have "focus"), and wherein the window projector displays the portion of the image corresponding to the window having focus (see col. 6, lines 52-66, where the focused images are sent to the inset image projector and the non-focused images are sent to the background projector).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Lechner in the system of Fisher in order to have multiple inset images in a simulator apparatus (see Lechner col. 2, lines 25-29), and to display only focused images on the widow projector so that a prioritized use of

the window projector will improve the overall operation of the system (see Lechner col. 3, lines 60-64).

Regarding claims 13 and 40, Fisher in view of Lechner teaches the limitations of claims 12 and 39 as discussed above, and Lechner further teaches a display system, wherein, in response to a user command changing focus to a second one of the windows (see col. 8, lines 45-52, where in using a line-of-sight tracking system the actual viewing of an area of the display constitutes a user command): the window projector displays, at a display location for the second window, a portion of the image corresponding to the second window (see col. 46-52, where the inset image within the line of sight is the second window); and the workspace projector displays the remainder of the image (see col. 6, lines 60-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the line-of-sight tracking system of Lechner in the system of Fisher in order to be able to determine the prioritized position of the user (see Lechner col. 6, lines 52-66 as discussed above in regards to claim 12) based on the line of sight that the user chooses.

Regarding claim 20, Fisher teaches a multi-projector display system for displaying an image including at least one window, comprising: a window projector (Fig. 1, projector 16, see col. 4, lines 34-37, where the inset area is considered a "window"), for displaying, at a display location, a portion of the image corresponding to a window

(Fig. 1); a workspace projector (Fig. 1, either of the projectors 10, 14, or 12 are a workspace projector), for displaying the remainder of the image; and a control mechanism (Fig. 1, the detail inset positioning system 34) coupled to the window projector, for changing at least one of the display location and the size of the window portion of the image (see col. 4, lines 31-33).

However, Fisher does not teach displaying an image including at least two windows and a plurality of window projectors

However, Lechner does teach displaying an image including at least two windows (Fig. 1, images 24, see col. 5, lines 38-39, where the inset images correspond to inset areas which are windows) and a plurality of window projectors (see col. 7, lines 46-48).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Lechner in the system of Fisher in order to have multiple inset images in a simulator apparatus (see Lechner col. 2, lines 25-29).

Regarding claim 21, Fisher further teaches a display system wherein the control mechanism changes the at least one of the display location and the size of the window portion of the image in response to a user command (see col. 5, lines 5-8, where the inset area is moved, which is a change in display location, in response to a user command).

Regarding claim 25, Fisher teaches a multi-projector display system for displaying an image including at least one window, comprising: a window projector (Fig. 1, projector 16, see col. 4, lines 34-37, where the inset area is considered a "window"), for displaying, at a display location, a portion of the image corresponding to window (Fig. 1, the inset area A); a plurality of workspace projectors (Fig. 1, all of the projectors 10, 14, or 12 are workspace projectors), for displaying the remainder of the image; and a control mechanism (Fig. 1, the detail inset positioning system 34) coupled to the window projector, for changing at least one of the display location and the size of the window portion of the image (see col. 4, lines 31-33).

However, Fisher does not teach a plurality of window projectors

However, Lechner does teach displaying an image including at least two windows a plurality of window projectors (see col. 7, lines 46-48).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Lechner in the system of Fisher in order to have multiple inset images in a simulator apparatus (see Lechner col. 2, lines 25-29).

Regarding claim 26, Fisher further teaches a display system wherein the control mechanism changes the at least one of the display locations and the size of the window portion of the image in response to a user command (see col. 5, lines 5-8, where the inset area is moved, which is a change in display location, in response to a user command).

Regarding claim 29, Fisher teaches a multi-projector display system for displaying an image, comprising: at least one regional image source, each for providing a portion of the image corresponding to a display region; a workspace image source, for providing the remainder of the image; at least one regional projector (Fig. 1, projector 16), coupled to an image source (Fig. 1, image generator system 30), for displaying the provided portion of the image at a display region (Fig. 1, inset area A); a workspace projector (Fig. 1, either of the projectors 10, 14, or 12 are a workspace projector), coupled to an image source (Fig. 1, image generator system 30), for displaying the remainder of the image (Fig. 1); and at least one control mechanism (Fig. 1, the detail inset positioning system 34), coupled to the at least one regional projector (Fig. 1), for changing the location of the at least one display region (see col. 4, lines 31-33).

However, Fisher does not teach a separate regional image source, for providing a portion of the image corresponding to a display region; and a separate workspace image source, for providing the remainder of the image.

However, Lechner does teach a separate regional image source (Fig. 2, inset image generator 26), for providing a portion of the image corresponding to a display region; and a separate workspace image source (Fig. 2, background image generator 22), for providing the remainder of the image.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Lechner in the system of Fisher in order to have separate sources for the inset image and the background image so that a

different type of image signal can be used for inset image, such as a three-dimensional image (see Lechner col. 5, lines 50-59).

5. Claims 17, 18, 44, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher in view of Dugdale (US 5,707,128).

Regarding claims 17 and 44, Fisher teaches the limitations of claims 1 and 30 as discussed above, however Fisher does not teach a display system further comprising a mirror for directing the output of the window projector to the display location, and wherein the control mechanism changes the display location of the window portion of the image by repositioning the mirror.

However, Dugdale does teach a display system further comprising a mirror (Fig. 2, mirror 60) for directing the output of the window projector to the display location (Fig. 2), and wherein the control mechanism changes the display location of the window portion of the image by repositioning the mirror (see col. 3, lines 10-12).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Dugdale in the system of Fisher in order to use a mirror to change the display location of the inset image so that re-alignment of the target projector can be avoided (see Dugdale, col. 1, lines 20-24).

Regarding claims 18 and 45, Fisher teaches the limitations of claims 1 and 30 as discussed above, however it does not explicitly teach a display system, wherein the

control mechanism changes the size of the window portion of the image in response to a user command for resizing the window.

However, Dugdale does teach a display system, wherein the control mechanism changes the size of the window portion of the image in response to a user command for resizing the window (see col. 3, lines 4-9, where the lens on the target projector can perform a zoom function to change the size of the target image).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the zooming lens of Dugdale in the system of Fisher in order to adjust the size of the target image if it does not appear to be the proper size.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher in view of Fisher et al. (US 5,326,266) (hereafter, "Fisher 2").

Regarding claim 24, Fisher teaches the limitations of claim 22 as discussed above, however it does not teach a display system, wherein the window projector displays the portion of the image corresponding to a window without any visible seams.

However, Fisher 2 does teach a display system, wherein the window projector (Fig. 1, projector 14) displays the portion of the image corresponding to a window (Fig. 1, inset 10) without any visible seams (see col. 1, lines 65 – col. 2, line 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Fisher 2 in the system of Fisher in order to have an oscillating border to the inset area so that the inset image would

appear blended with the background image.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cannon et al. (US 5,980,044) teaches an area of interest display system. Mall et al. (US 6,222,675) teaches an area of interest head-mounted display system for simulators. Surati et al. (US 6,456,339) teaches a super resolution display system with multiple background projectors. Tzidon (US 20030011750) teaches a multi-projector display system with a target image.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sameer K. Gokhale whose telephone number is (571) 272-5553. The examiner can normally be reached on M-F 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SKG
July 24, 2006

Sameer Gokhale
Examiner
Art Unit 2629

AMR A. AWAD
PRIMARY EXAMINER
